

REMARKS

Claim 1 has been amended. Withdrawn claims 16-30 have been canceled solely to further the prosecution of the application. Claims 1-15 are pending in the application. Applicant reserves the right to pursue the original claims and other claims in this application and in other applications.

The Office Action has requested a new Title. Pursuant to the Examiner's request, the Title has been amended to --OPTICAL RECORDING/REPRODUCING APPARATUS WITH APC AND SPS PROCESSES--. The Amendment addresses the concern raised in the Office Action.

Claim 1 stands rejected under 35 U.S.C. 103(a) as being unpatentable over Ueki/Nagara in view of Kaku. The rejection is respectfully traversed.

Claim 1 as amended recites an optical recording/reproducing apparatus. The apparatus comprises "a calculation unit calculating a derivative efficiency of the laser based on the first and second power sample signals detected by the detection unit, the first increment current being supplied to the laser driver during the APC process, and the second increment current being supplied to the laser driver during the SPS process, so that the drive currents of the laser driver, supplied to the laser, are controlled based on the calculated derivative efficiency." Applicant respectfully submits that the cited combinations fail to teach or suggest the claimed invention.

For example, Ueki and Nagara disclose a method and apparatus for controlling laser light power, which uses a laser driver, a detection unit and a calculation unit. Ueki and Nagara fail to teach or suggest SPS processing. This is acknowledged in the Office Action. As such, Ueki and Nagara fail to teach or suggest a second increment current being supplied to the laser driver during the SPS process. To

overcome this deficiency, the Office Action cites to Kaku. Kaku, however, merely discloses an optimum recording power calculation circuit for obtaining optimum recording power for a predetermined zone on the basis of a densest pattern waveform and a sparest pattern waveform.

Applicant respectfully submits that none of the cited references, even when considered in combination, discloses, teaches or suggests “calculating a derivative efficiency of the laser based on the first and second power sample signals detected by the detection unit” where “the first increment current [is] supplied to the laser driver during the APC process, and the second increment current [is] supplied to the laser driver during the SPS process,” as recited in amended claim 1. As such, claim 1 is allowable over the cited combinations.

Moreover, as set forth in the present application (page 32, line 25 to page 41, line 9), the calculation unit (e.g., CPU 1) calculates a derivative efficiency “ η ” of the laser diode (LD 2) based on the first and second erase-power sample (EPS) signals ($Pe+\alpha$, $Pe-\alpha$) and the corresponding erase-level drive currents (I'' , I'), in accordance with the following equation:

$$\eta = [(Pe+\alpha) - (Pe-\alpha)] / (I'' - I') = 2\alpha / (I'' - I') \quad (9)$$

According to the claimed invention, it is possible for the optical recording/reproducing apparatus to maintain accurate recording power levels of the laser optical power even when a light-receiving module having limited bandwidth is used. This cannot be done with the cited combinations. As such, the cited combinations fail to disclose, teach or suggest the claimed invention for at least the foregoing reasons. Accordingly, Applicant respectfully submits that the rejection should be withdrawn and claim 1 allowed.

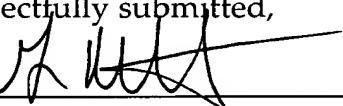
Claims 2-15 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Ueki/Nagara in view of Kaku and “acknowledged prior art.” The rejection is respectfully traversed.

Claims 2-15 depend from claim 1. As such, claims 2-15 recite “a calculation unit calculating a derivative efficiency of the laser based on the first and second power sample signals detected by the detection unit, the first increment current being supplied to the laser driver during the APC process, and the second increment current being supplied to the laser driver during the SPS process, so that the drive currents of the laser driver, supplied to the laser, are controlled based on the calculated derivative efficiency.” As set forth above, the combinations of Ueki/Nagara in view of Kaku fail to teach or suggest these limitations. Applicant respectfully submits that the “art” referred to by the Office Action also fails to teach or suggest these limitations. Accordingly, the rejection should be withdrawn and claims 2-15 allowed.

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to pass this application to issue.

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Respectfully submitted,

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